

AL-FARABI KAZAKH NATIONAL UNIVERSITY
Faculty of chemistry and chemical technology
Department of Analytical, colloid chemistry and technology of rare elements

Final exam program for the discipline
99067
Machinery and Instruments in Food Technology

Educational program:
6B07202 «Food chemistry and technology (NCU)»

Almaty 2023

Final exam program the discipline is compiled by Madi Abilev, PhD, associate professor of the department of analytical, colloid chemistry and technology of rare elements

Reviewed and recommended at the meeting of the department of analytical, colloid chemistry and technology of rare elements

« 07 » September 2023, Protocol №2

Head of the department _____ A.M. Argimbayeva
(signature)

Introduction

Exam format: synchronous.

Exam form – Written exam.

Exam platform: Univer IS.

Exam type — offline

Exam control – lecturer.

The exam lasts: 120 minutes for 2 questions, 1 attempt.

On the exam in this discipline, the following types of questions are encountered

Knowledge application questions, composite questions.

Topics for which test tasks will be drawn up

1. Organization of machine technologies for food products
2. Operational characteristics of machines and devices
3. Technological lines
4. Calculation of performance of the technological line
5. Technological lines for the production of food products by disassembling agricultural raw materials into components
6. Technological lines for the production of food products by assembling from components of agricultural raw materials
7. Technological lines for the production of food products by combined processing of agricultural raw materials
8. Organization of processes in machines and devices of technological lines
9. Processes in machines and devices of the future
10. Technological lines for the production of mixed feed
11. Equipment for washing and cleaning of agricultural raw materials
12. Equipment for disassembling plant and animal raw materials
13. Calculations of technological equipment for food production
14. Equipment for grinding, sorting and enrichment of food media
15. Calculations of equipment for the preparation of raw materials
16. Equipment for mixing and forming food media
17. Calculations of technological equipment for mechanical processing of solid-phase raw materials
18. Sketches for solving engineering problems for the development of the design of selected equipment
19. Apparatus for tempering, concentration and extruding food media
20. Calculations of technological equipment for mechanical separation of liquid-based mixtures
21. Apparatus for cooling and freezing food media
22. Calculations of technological equipment for mechanical processing of raw materials and semi-finished products by assembling
23. Apparatus for conducting processes of diffusion and extraction of food media
24. Calculations of technological equipment for mechanical processing of

- raw materials and semi-finished products by disassembling
25. Equipment for fermentation processes
 26. Calculations of technological thermal devices
 27. Equipment for maturing and smoking food media

Rules for conducting the exam form

The exam will be held according to the exam schedule. The teacher uploads the prepared exam questions to the Univer system (univer.kaznu.kz).

Teacher:

1. In the Univer system, on the tab "Program of final control by subject", places the document "Final control of the discipline" in PDF format, in which the following should be indicated:

- examination rules;
- assessment policy;
- schedule;
- place of examination.

2. After the date of the exam is set in the schedule, the teacher must inform the students where the rules of the exam are located.

3. Gives time to prepare the answer during the exam.

4. The student is warned about the prohibition of using photocopiers, telephones, and other devices.

5. Monitors the course of training the student, introducing warnings, if necessary, or canceling the student's answer (preparing an act of violation in case of a gross violation of the rules of conduct for the exam). Students are allowed to use the sheet to compose a summary of the answer.

6. After completing the scheduled exam, students' answers are collected and sent to the registrar's office.

Student instruction

1. All students enter the classroom 30 minutes before the exam begins. They show their identity card, sign the exam participation form, and get an exam ticket.

2. Before the exam, students should check whether there is a sheet of paper, a pen and other necessary items.

3. At the beginning of the exam, students turn over the exam ticket and fill in his/her name.

4. Students write their answers to exam questions on the given answer sheet.

5. After completing the exam, students hand over the exam sheet filled with answers to the teacher on duty.

Evaluation policy

As a result of the exam, the student gets 100 points. 40 points for the first question, 60 points for the second question. Within 48 hours, the students' points will be entered in the certification sheet.

Recommended Literature Sources for Exam Preparation

1. Kutz M. (Ed.) Handbook of Farm, Dairy and Food Machinery Engineering 3rd Edition. - Academic Press, 2019. - 806 p.
2. Letsola S. Farm Dairy and Food Machinery. - South India Book Traders, 2018.
3. Pasternak Z., Shpigel N.Y. Handbook of Farm, Dairy, and Food Machinery. - Magnum Publishing LLC, 2016.
4. Summers T. Handbook of Food Engineering. - Murphy & Moore Publishing, 2022. – 251 p.
5. Saravacos G., Kostaropoulos A.E. Handbook of Food Processing Equipment (Food Engineering Series). - Springer, 2018. – 787 p.

RUBRICATOR FOR CRITERIAL ASSESSMENT OF FINAL CONTROL
(for standard oral/written forms)

Discipline: 99067 Machinery and Instruments in Food Technology. **Form:** standard oral. **Platform:** offline

№	Score Criteria	DESCRIPTORS				
		«Excellent»	«Good»	«Satisfactory»	«Unsatisfactory»	
		90-100 % (36-40 points)	70-89 % (28-35 points)	50-69 % (20-27 points)	25-49 % (10-19 points)	0-24 % (0-9 points)
Question 1 40 points	Describing the basics of the selected instrument	To give a detailed information about the instrument, its position in the classification of the machinery and instruments in food technology, to describe the principles and parameters of the instrument.	Some information is missing, but the principles are described correctly.	Basic principles are described, but most of the details are missing (classification, principles of operation, etc.)	The instrument is classified, instrument is named, but the principles of operation are not mentioned.	The instrument is classified, no information about application
	Giving the examples of the application of instrument	To give a precise example of application; describe the procedure of the instrument	Example is good, but no procedure described	Example is given without detailed information	Application of the instrument is mentioned only for a group of compounds without specific examples	No example
		90-100 % (54-60 points)	70-89 % (42-53 points)	50-69 % (30-41 points)	25-49 % (15-29 points)	0-24 % (0-14 points)
Question 2 60 points	Application of selected methodology and calculations to real practical tasks	Completing the study assignment in full, giving a detailed, reasoned answer to the question, and then solving the practical problems. Completing calculations, formulas in them completely and correctly.	Completion of the educational task in part, not completely, giving a reasoned answer to the question posed without fully solving the practical problems; illiterate use of scientific language norms. In calculations, quoting formulas is incorrect or incomplete.	The answer is fragmented, breaking the logical sequence, factual and semantic inaccuracies are allowed, the theoretical knowledge is used superficially.	An irrational method of solving the task or an insufficiently thought-out response plan; inability to solve tasks, perform tasks in general; the presence of errors and shortcomings exceeding the norm.	Inability to use knowledge and algorithms to solve tasks; inability to draw conclusions. Violation of the rules of final control. Practical problem is not solved.

Formula for calculating the final grade:

Final grade (FI) = (%1+%2+%3+%4+%5+%6, etc.) / K, where % is the level of task completion by criterion, K is the total number of criteria.

Exam tickets consist of 2 questions. The maximum points for correctly completed tasks are 100, including 40 points for the first question and 60 points for the second question.

